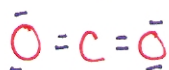
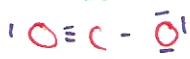


6. Draw the Lewis structures (including all resonance structures) and give the bond order for the following molecules.

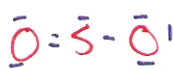
a. CO_2



2

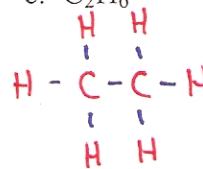


b. SO_2



1.5

c. C_2H_6



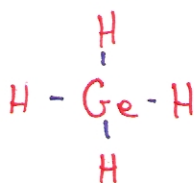
1

7. Explain why the bond angles decrease from 109° to 107° for the tetrahedral and pyramidal geometries respectively.

unshared pairs of electrons

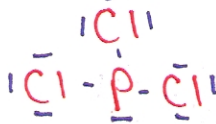
8. Give the geometric shape for each of the following molecules.

a. GeH_4



tetrahedral

b. PCl_3



trigonal pyramidal

c. SO_3



trigonal planar

9. Which of the above molecules are polar? Explain why.

PCl_3

10. What is a hydrogen bond and how is it different from other chemical bonds?

association between H and N, O, or F

11. Circle which molecules would exhibit hydrogen bonding.

CH_3OH

CH_4

SeH_2

NO_3^-

NF_3